



Office of Strategic Infrastructure Briefing to NASA Advisory Council Commercial Space Committee: Facilities Utilization and Disposition Planning

Calvin Williams

Acting Director,

Technical Capabilities and Real Property Management Division,
Office of Strategic Infrastructure



Agenda

- Purpose: To provide an overview of how NASA manages its real property portfolio and makes available assets to commercial industry
- Policy
- Facilities Utilization
- Master Planning
- Disposition Process
- Engaging Commercial Industry with NASA's available assets



Overarching Goals: 2011 Strategic Plan

- 5.2 Ensure vital assets are ready, available, and appropriately sized to conduct NASA's missions.
- 5.3 Ensure the availability to the Nation of NASA-owned strategically important test capabilities.



NASA's Authority

- NASA has legal authority to provide facilities, equipment, and services to non - Federal entities on terms NASA deems appropriate
 - The Space Act
 - Enhanced Use Leasing Authority
 - The Commercial Space Launch Act



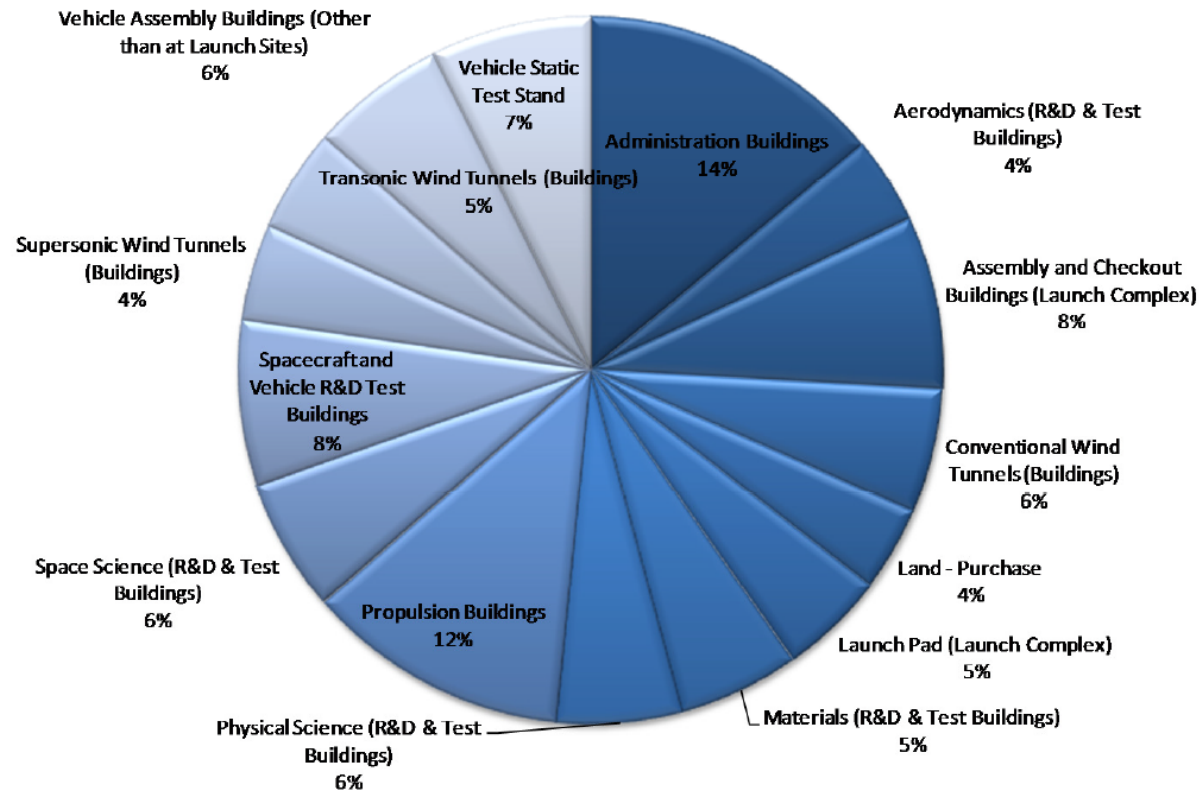
Facilities Utilization Studies

- Conducted various utilization studies on NASA's Capabilities
 - NASA Technical Capabilities Study
 - NASA Real Property and Validation Study
 - Airfields Study
 - Rocket Propulsion Study
 - Thermal Vacuum Study
 - Data Centers Study
- Commercial Partnership Study Underway



NASA Real Property Assessment and Validation Study

Largest Assets by Classification based on CRV Value (top 50%)



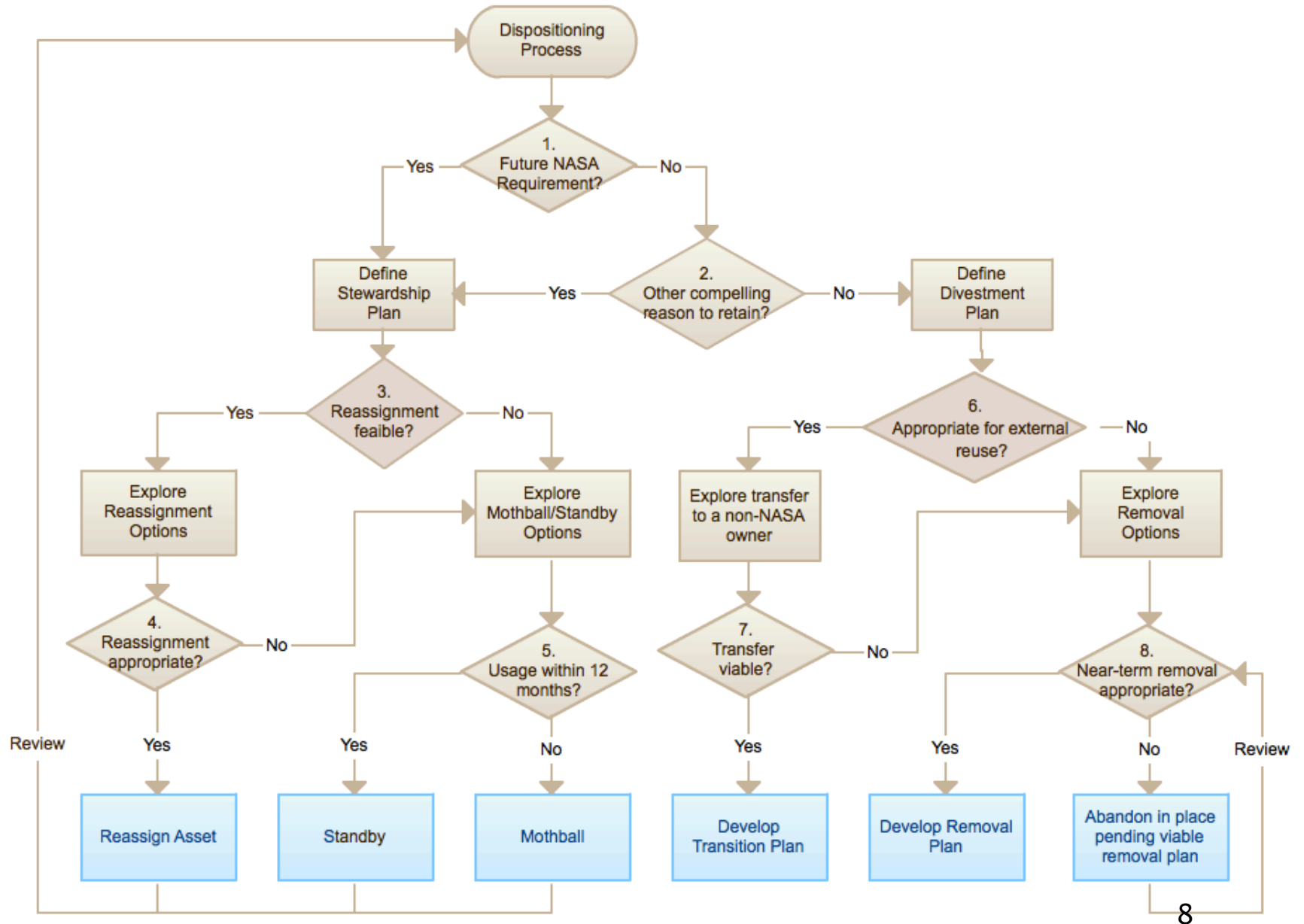


Master Planning

- Master Planning
 - Primary link from Agency strategies to Center real property implementation
 - Provides a comprehensive framework for Center infrastructure reduction and stewardship in support of Mission goals and objectives within available resource constraints
 - Shows progress toward consolidation, renewal, energy conservation, water conservation, & renewable energy
 - Reviewed yearly, updated as required to stay consistent with Agency mission & facility strategy

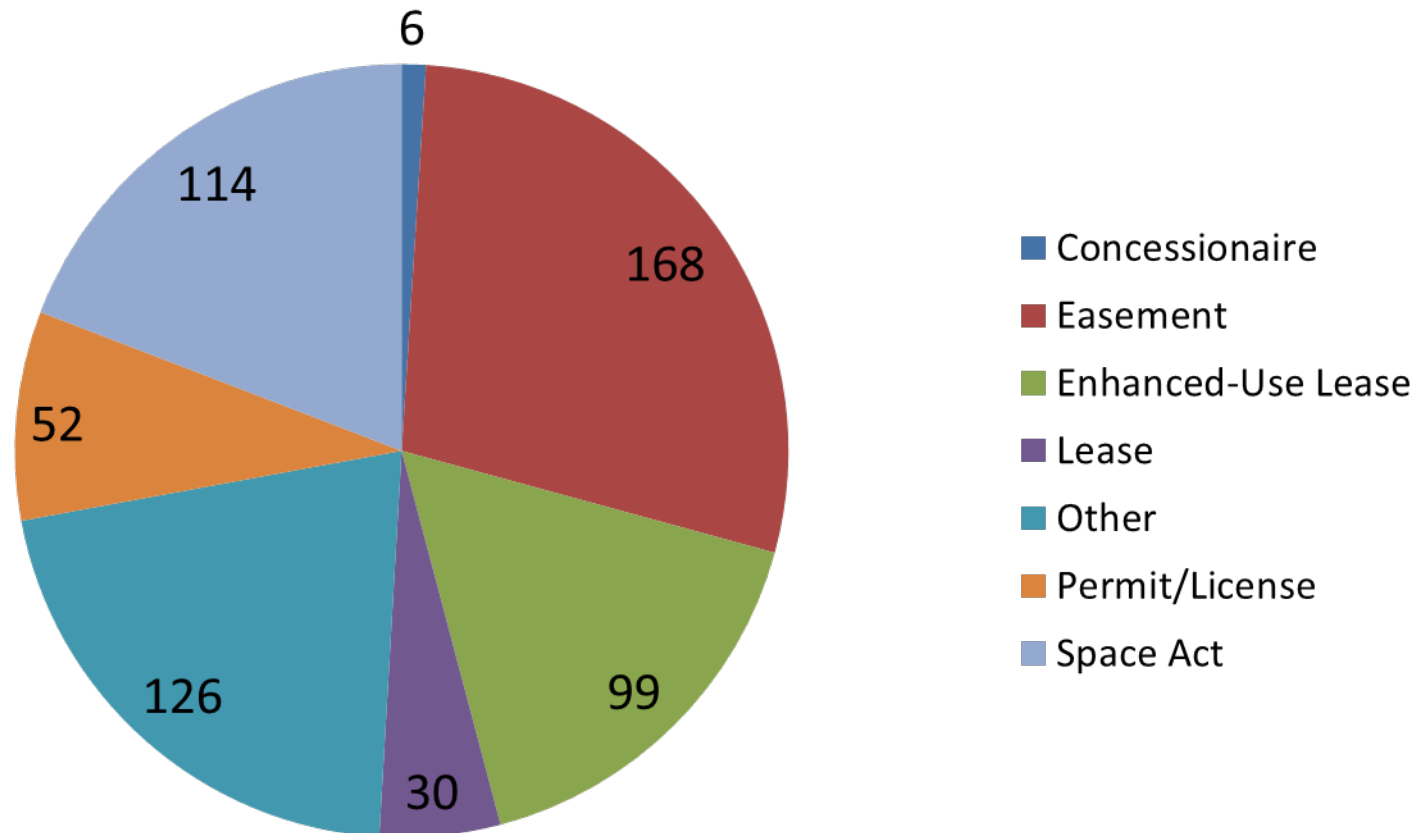


Disposition Process





Current Status NASA Out-Granted Agreements





Making NASA's Assets Available

- Centers have taken initiatives to bring commercial entities onto NASA's Centers
- Past efforts:
 - Enhanced Use Leasing
 - Space Act Agreements
- Recent efforts
 - Request for information
 - Transfer total O&M costs to end users
 - Space Act, Use Agreements



Enabling Commercial Space

- Maximizes use of Agency funding for Mission Related Work
- Attracts commercial entities to NASA Centers to utilize multiuse infrastructure and shares costs
- Reduces NASA's cost for maintaining and operating under-utilized assets
- Reduces NASA's assets without diminishing NASA's assets
- Maintains infrastructure for future use



Case Study of Enabling Commercial Activity

- KSC Future Development Concept
 - Multi-Use platform for launches, government and commercial
 - KSC provides facilities, equipment, and services for multi-users
 - Enables KSC to retain the facilities, equipment, skills and trained workforce that are required to support future NASA and commercial space missions



KSC's Commercial Industry Engagement

- Pursued broad and transparent engagement with industry regarding opportunities
 - Held industry workshop to highlight KSC capabilities. Attended by 14 U.S. launch and support providers.
 - Issued RFI, asking for industry interest in use of KSC facilities. 17 responses received.
 - One-on-one engagement with respondents and new prospects with regard to support opportunities for commercial space providers
 - Notice of Availability for all KSC facilities potentially available
 - Required by NPR 8800.15B (Real Estate Management)
 - Ensures open competition among potential bidders



Facilities listed in KSC's NOA

KSC Space Vehicle Processing and Launch Facilities:

- Launch Complex 39A and B
- Vehicle Assembly Building
- Launch Control Center (LCC)
- Orbiter Processing Facilities 1 and 2
- Orbiter Processing Facility 3/SSMEPF
- Shuttle Landing Facility (SLF)

KSC Payload Processing Facilities:

- Multi-Payload Processing Facility (MPPF)
- Payload Hazardous Servicing Facility (PHSF)

Miscellaneous Facilities:

- Merritt Island Launch Area (MILA)
- Far Field Antenna Testing Range

Off-Line Processing Facilities:

- Solid Rocket Booster Assembly and Refurbishment Facility (SRB-ARF)
- Processing Control Center (PCC)
- Rotation Processing and Surge Facility (RPSF)
- Space Station Processing Facility (SSPF)
- Hypergolic Maintenance Facility (HMF)
- Canister Rotation Facility (CRF)
- Thermal Protection System Facility (TPSF)
- Parachute Processing Facility (PPF)

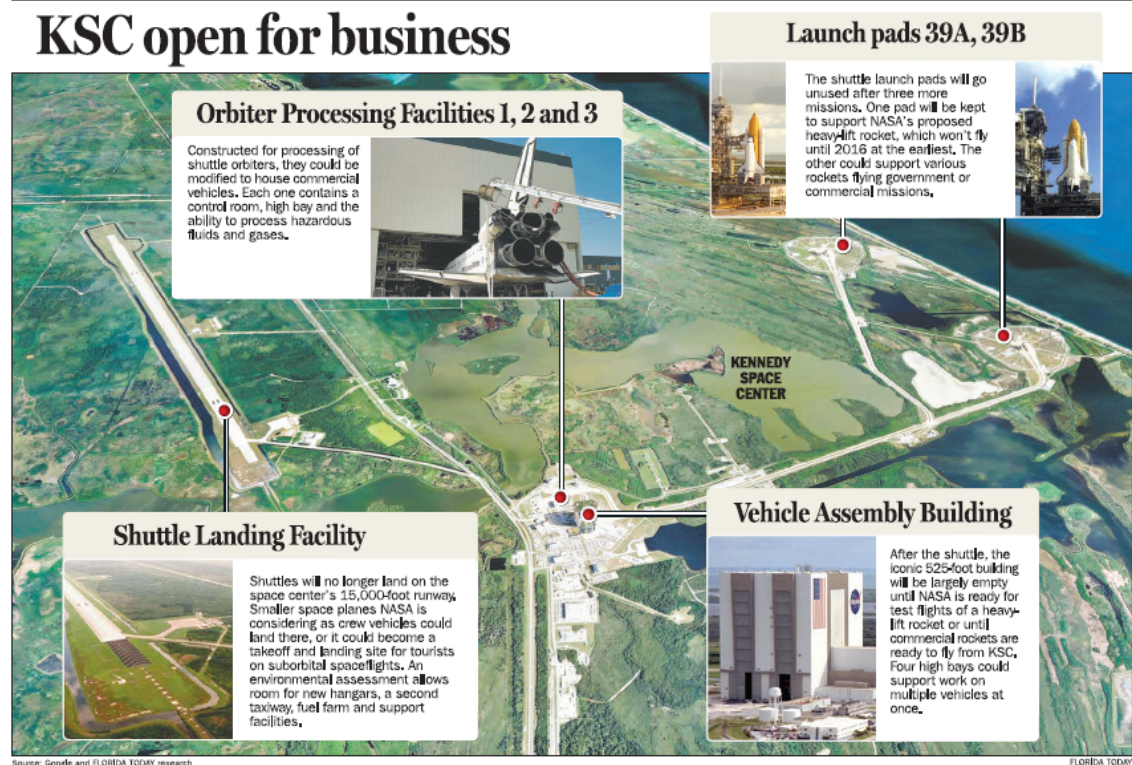
Additional Non-Real Property Assets

- Mobile Launch Platforms (MLP's) 1, 2 and 3
- Mobile Launcher (ML)



KSC's NOA: Media Exposure and Analysis

- High degree of industry and public awareness was achieved
 - Published in NASA Acquisition Information System (NAIS) and Fed Biz Opportunities
 - Wide coverage in key trade press such as Space News, Av Week, Space Ref
 - Commercial Spaceflight Federation issued notice to membership
 - CPDO highlighted at FAA's Annual Commercial Space Transportation Conference midway into response period
- NOA responses received
 - Responses received from commercial, federal, non-profits and State Agencies
 - Prioritized based on type of response and whether response met scope of NOA (See back-up)





Recurring themes from KSC's NOA

- The commercial industry could assume several different forms at KSC with regard to use of existing facilities:
 - **Space transportation product or service**
 - Exclusive use agreement (e.g. permit, lease) for a NASA-owned facility to **perform company specific tasks** in support of the government and/or commercial space industry (*i.e. – manufacturing a space vehicle*)
 - Transfer ownership (via GSA) of a NASA-owned facility to perform company-specific tasks in support of the government and/or commercial space industry
 - Shared use (with other customer or with NASA) of a NASA-owned facility
 - **Support service provider**
 - Exclusive use agreement for a NASA-owned facility to **provide a support service** to the government or commercial space industry (*i.e. payload processing as a service to a launch provider*)
 - Transfer ownership (via GSA) of a NASA-owned facility to provide a service to the government or commercial space industry
 - Shared use (with other customer or with NASA) of a NASA-owned facility
- KSC is exploring different models to enable commercial industry to support NASA's purpose and missions



KSC's Facility Best Use Assessment Criteria

- Alignment with Agency / KSC Mission - Operates or directly supports space launch / user missions
 - U.S. Govt. (NASA, DOD, Other govt. agencies)
 - Commercial
- Level of benefit to NASA
- Consideration of risks
- Reliability of funding
- Facility meets customer requirements
- Most efficient / cost beneficial use of facility
- Critical skills retained
- Duration of intended use
- Potential for maximum lifecycle functions at KSC



Other Facility Repurposing Activities

- OPF's 1 and 2
- VAB and associated facilities
- LC39 Pad A and B
- MPPF/PHSF/SSPF (Payload Processing Facilities)



Success Stories at KSC

- **Space Life Sciences Laboratory**
 - The Space Life Sciences Lab is a unique facility constructed under a partnership between the State of Florida and NASA. It provides the capability for researchers from the research consortium to work closely with NASA researchers and payload developers to make fundamental advances in our understanding of biological systems and to lay the ground work for long duration human space missions
- **Operations & Checkout Building Renovation**
 - The state of Florida, working with Space Florida, provided \$35 million to bring the Orion Crew Exploration Vehicle manufacturing work to KSC. This endeavor created 300 jobs and provided the first opportunity for spacecraft manufacturing at KSC.



Success Stories at KSC

- **Florida Power & Light Solar Energy Site**
 - NASA and Florida Power & Light have partnered through a long-term land lease to build a 60-acre, 10-megawatt solar energy site south of the SR3 KSC gate utilizing a fallow citrus grove, as well as a 5-acre, 1-megawatt site on center that provides 1 percent of our power needs. Each will use solar energy power similar to that on the International Space Station. FPL and NASA have also recently announced a future expansion project that will mean more development and employment at KSC.
- **NASA and Starfighters, Inc., of Tarpon Springs, Fla.**
 - Partnering to use the Shuttle Landing Facility runway at Kennedy Space Center to help support the development of the commercial space industry. KSC and Starfighters signed a cooperative space act agreement enabling them to become a tenant at the facility where it will launch a new business venture with a fleet of privately operated Lockheed F-104 aircraft.



Success Stories at KSC

- **Space X**
 - A privately owned commercial space company that is developing the Dragon crew and cargo capsule and the Falcon family of rockets to deliver cargo and crew to the International Space Station and other commercial customers. They were granted an exclusive use five year lease for LC 40 at Cape Canaveral Air Force Station in 2008 and plan to launch its Falcon 9 rocket on a series of test flights in 2010 to qualify as a launch provider under the \$3.2 Billion NASA Commercial Resupply Contract.



Summary

- To better utilize NASA assets:
 - Identify assets no longer required by NASA missions
 - Conduct Facility Utilization Studies
 - Review and Implement Agency and Center Master Plans
 - Follow the Disposition Process
 - Identify assets that may have future uses, if not by NASA, by commercial entities, then:
 - Provide Use Agreements
 - Transfer Operations
 - Execute Outgrant Agreements